

Introduction

The history of Finnish subject teacher education with special reference to the development at the University of Tampere

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Teachers in the Finnish school system

In this introductory chapter, our aim is to describe some of the history and context of Finnish subject teacher education. Although our perspective is based on developing teacher education at the University of Tampere, we believe that also national development and world-wide theoretical perspectives are highlighted in the chapters. In this introduction we will focus on the history of Finnish teacher education and also present an overview of the contents of the book. Each of the chapters is concerned with depicting a research and

development project or several projects and considering its or their contribution to teacher education.

In Finnish teacher education, we can distinguish four teacher categories. The teachers in these categories have received a different type of education based on history and educational traditions. *Early childhood education teachers* (kindergarten teachers) have been educated at kindergarten teacher education institutions since the early 20th century. These institutions were combined with universities in 1995 and the early childhood education teacher degree became a bachelor level (3 yrs.) academic degree.

Primary school teachers (class teachers) work in grades 1 through 6 in the Finnish schools. This teacher category originates from the 1860s when the first elementary school teacher education institution ('kansakoulunopettajaseminaari' in Finnish) was established in Jyväskylä. The institutions located in different parts of the country were combined with universities in 1974 when faculties of education were established. *The primary school teacher's degree* was a three-year programme at the bachelor level until 1979 when it was legislated to become a five-year master's degree in educational sciences.

In Finland, *subject teachers*, i.e. teachers specialized in teaching a subject or subjects, have been educated at the university level since the beginning of public education and teacher education in the 19th century. From the very beginning, subject teacher education adopted the teacher training school system ('normaalikoulussa harjoittelu') in which the student teachers practised in special, state owned schools after their university degree. The teacher education in teacher training schools was a one-year internship type of period during which student teachers practised teaching under the supervision of experienced subject teachers ('auskultointi').

The original system prevailed until 1974 when all teacher training schools were combined with different universities. A new master's degree programme for primary school teachers commenced in 1979. All university degree programmes were also reformed, and *Teacher's*

Pedagogical Studies, including both theoretical and practical studies, became a required minor subject for all teachers, including subject teachers. The main content areas of the *Teacher's Pedagogical Studies* were legislated to include three domains, namely, basic studies in education, subject didactics (including subject didactic research), and teaching practice in schools. Universities offering the master's degrees were, and still are, autonomous in designing the goals and contents of teacher education. However, on the national level, it was agreed from the very beginning that each domain should encompass about one third of the total *Teacher's Pedagogical Studies* (currently 60 ECTS, i.e. European Credit Transfer System credits).

The reasons for this type of reform in late 1970s and early 1980s were partly due to the overall reform of the Finnish school system. Since the 1970s the new comprehensive school ('peruskoulu') has offered general 9-year education for all. Earlier, in the dual system, subject teachers had been working with those students who had applied and been admitted to 8-year (lower and upper) secondary schools ('oppikoulu' and 'lukio') giving access to university studies. It was also evident that research in different domains and disciplines had brought a lot of new perspectives to school education and teachers' roles (see, e.g., Mandl et al. 1990; Carretero et al. 1991, Jaakkola et al. 1995).

This same subject teacher education model also spread to teacher education in vocational education. According to the current legislation, in addition to subject studies and/or vocational content studies and work experience, teachers in vocational schools and universities of applied sciences must have 60 (ECTS) in *Teacher's Pedagogical Studies*.

Reforming subject teacher education in the 1990s

In the early 1990s, it became obvious at the Faculty of Education at the University of Tampere that conceptions of subject teaching and teachers needed theoretical and practical updating. This updating focused on those subject teacher education programmes that the University of Tampere offered, namely, languages, history and social sciences, and mathematics and natural sciences. One incentive for this need was the development in the 1980s when *Teacher's Pedagogical Studies* were included as a minor subject in the master's degrees. The traditional way of qualifying as a subject teacher after the degree was replaced with minor subject studies during the 3rd- or 4th-year studies. This development in the way of qualifying was not only practical but it gave an opportunity to complement and intensify the studies' theory vs. practice discourses and to update the studies in the subject didactics based on both the subject-specific studies at subject faculties and in-school training.

The prevailing designing principle was to reconstruct the subject-specific contents into pedagogically relevant and meaningful modules, adjusting these modules to different age and grade levels, and designing learning goals benefitting students' knowledge and aesthetic, practical and moral resources. This simple model is typically called a transmission model in which the teachers deliver the required knowledge. Students are considered as recipients whose duty is to acquire the knowledge, fulfilling the requirements to learn according to the curricula. The teacher is, according to this model, a moral and cognitive authority who should be able to specify what knowledge is worth knowing for the students. This conception of teaching and teachers, which according to current theoretical models was oversimplified and based on incorrect generalizations of the learning processes, was the leading principle in developing theories of teaching and learning. (Autio 2006/2012.)

This traditional thinking about teaching was challenged by at least two theoretical discourses. The first one is related to the developments in the understanding of the learning concept. This development can be summarized as a change from considering learning as acquisition to understanding it as mental and social construction in which students make interpretations based on their own history and autobiography, and the social context of the situation in which the process takes place (see, e.g., Autio 2006/2012; Lehtovaara 1996; Ropo & Värri 2003; Jaatinen 2007). This transformation broke the causal model between teaching and learning, requiring changes in teachers' thinking about instruction. However, basing the curricula and assessment on the idea of causality between teaching and learning is still prevalent in several educational systems outside Finland.

Developments in the learning theories also challenged traditional thinking about subject didactics and curriculum. It was evident that profound understanding of school education was needed in subject teacher education. The first step was a conceptual change from teacher training to teacher education. This change also challenged the previous understanding of school teaching. (Autio 2006/2012; Lehtovaara 2001; Ropo & Värri 2003; Kohonen et al. 2001.) The beginning of new thinking did not lean explicitly on any specific theorization. However, it was recognized that the new postmodern era, as it was described, required new ideas for the education of individuals for the new subjectivity and identities, as well as global citizenship (Doll 1993; Autio 2006). Theoretical understanding of new directions developed quickly in the 1990s, and the progress took different paths in the various domains of subject didactics. (see, e.g., Kohonen 1992a, b, c; Kohonen 2001; Lehtovaara 2001; Jaatinen 2001; Kaikkonen 2001; Silfverberg 1999.)

Anglo-American theorization of educational psychology and emphasis on empirical research were popular in all behavioural sciences since World War II, after the collapse of Germany. Concurrently, Nordic education and teacher education rested on

the ideas of the German didactics and the concept of *Bildung*, in particular. (Autio 2006/2012.) After the first Finnish PISA results in 2000 which indicated that Finland had succeeded surprisingly well, it was not clear what had been the key factors contributing to those achievements. According to some researchers the Nordic traditions of applying philosophy-based thinking in education may have been the most significant cornerstones for the Finnish success (cf. Autio 2006).

Retrospectively, and in respect to the current theorization in the so-called *Curriculum Studies*, the Tampere subject teacher education was avant-gardist in the 1990s. The Tampere programme was an outsider in the mainstream quantitative perspectives of educational sciences and their increasingly recognized restrictions in describing human beings as subjects and individuals having a history, a present and a future. This criticism focused on teacher education and particularly on school education and the limitations in understanding students as holistic human beings. (Ropo et al. 1995.) Outside Finland, this recognition was increasingly present, for instance, in the US where the *Reconceptualization Movement* in curriculum and its developers and followers became more recognized by scholars all over the world, including dynamically progressing China which has reformed its education system based on ideas from the *Reconceptualization Movement*. (Doll 1993; Pinar et al. 1995; Pinar 2012, 2014; Henderson et al. 2015; Autio 2014a, b; Hua 2014.)

In Tampere, the developments starting from language teacher education spread little by little to other subject domains (see, e.g., Lehtovaara 2001; Kohonen 2001). In this movement, it was typical to consider school teaching and learning from the more holistic perspectives, emphasizing dialogical and democratic ideals as goals and methods of instruction. Experiential learning, as well as opening the cultural and contextual aspects of learning, rendered new perspectives to life in the classroom and learning a subject. It also became evident that understanding learning differences required

understanding them from the perspective of the autobiographies and life histories of the students. (Kohonen et.al. 2001.) All these theoretical expansions required new expertise, for instance, in philosophy, back-tracking to the ideals of early Finnish theorists, such as Ahlman, Hollo, and Salomaa in teacher education in the early 20th century.

It can be argued that the development of the holistic approach in which the teacher autonomy and freedom from methodological restrictions of the increasingly mechanistic educational thinking is, perhaps, one of the few key factors in Finnish education success. This movement can also be regarded as a kind of ‘vaccination’ against the ‘teaching to the test’ movement that has spread all over the world. This strong emphasis on testing and test results, often in the form of standardized, national testing as the main evidence of learning achievements, has never reached Finland (Westbury 2000; Autio 2017.)

Assessment as an essential part of curriculum and school teaching was widely recognised in the department of Tampere teacher education in the 1990s. However, the solution was not to develop it in the direction of quantitative assessment but to enhance self-reflection in authentic contexts and develop methods for qualitative evaluation in which autobiographical and interpretative perspectives could be taken into account better. This type of assessment does not aim at informing outsiders about the success and achievements in relation to other students. Rather, its purpose is to enhance personal goal-setting and self-evaluation in terms of learning during the course of one’s life and interpretations of personal experiences in one’s own autobiography. (See Kohonen’s chapter in this volume.)

The chapters in this book illustrate implications and developments of teacher education for 21st-century schools. Teachers should be educated to work for the future and with the generation that will influence that future. Although there are commonly shared conceptions of what the future holds, consensus is lacking on the

global level. Narratives of the future differ on the basis of individual, social and cultural histories, traditions, and expectations. Teachers as part of the global community and as representatives of education are in a crucial role in ensuring that the complex dialogue and search for solutions to increasingly complicated questions continue in ethically and morally responsible ways and directions. The developments in teacher education that we have briefly outlined above have been successes - however, nothing is final.

Organization of the book

In their chapter, **Perceptions on collaboration, time management and meaningfulness: Millennials' innovations in the subject teacher education programme**, Marita Mäkinen, Johanna Annala and Jyri Lindén present the highlights of current student teachers' perceptions of the subject teacher education programme (STEP). They argue that student teachers represent one of the key groups that must be heard in order to maintain the efficiency of teacher education when facing 21st-century challenges, and suggest that the notion of social practice that builds on the connection between the practices of the programme and the social nature of the student teachers should be a driving force in the design, implementation and updating of teacher education programmes. The chapter aims to deepen the understanding of student teachers' perceptions of teacher education through the lens of generation theories. By listening to and understanding these teachers' voices, teacher educators can eliminate misunderstandings based on intuitive and tacit generational differences.

Viljo Kohonen's chapter, **Advancing language education in the context of developing the European Language Portfolio in Finland**, traces the processes of developing foreign language education and the European Language Portfolio (ELP) within the Council of Europe, Strasbourg. The ELP developments in Finland are examined as part of

the Council's innovative work on foreign language teaching aimed at promoting socially responsible learner autonomy and self-assessment in language education, spanning thirty years (from the early 1980s to 2014). The Finnish ELP-oriented research and development work described in the chapter was conducted in several intensive collaborative projects managed and led by Professor Kohonen, involving university departments of teacher education and numerous primary and secondary school language teachers and their pupils.

In the chapter, **Everyday multidisciplinary: Confessions of a mother tongue teacher educator**, Pirjo Vaittinen discusses mother tongue didactics and subject-specific didactics presenting her views through a narrative of a teacher educator's professional identity. She explores her teaching and activities in subject teacher education at the University of Tampere with focus on the significance of reflection and research in developing autonomous teachers. She includes the history and tradition of mother tongue teaching in Finland and the contributions of her former colleagues in her narrative relating to her personal choices and reasoning for them. During the twenty years of her career as a teacher educator, she has considered reflection and research to be the basis of teacher education and regards subject didactics as a perspective of teacherhood, of being a teacher.

In his chapter, **Reflections on my journey towards culture-bound and intercultural education**, Pauli Kaikkonen uncovers and discusses his personal development as a foreign language teacher and researcher and also highlights the importance of his research and development projects as a resource to expand his understanding of intercultural (foreign language) education. As part of his autobiographical and chronological journey presented in the chapter, he also discusses 'authenticity', 'identity' and 'plurilingualism' as significant conceptions of modern foreign language education. At the end, Kaikkonen reveals the main points of his current understanding and proposes a few central and important perspectives (theses) for foreign language education.

In her chapter, **Interactive, authentic, gameful e-learning concepts for the foreign language classroom**, Laura Pihkala-Posti describes a few snapshots of the narrative towards her current research and academic dissertation. Her purpose is to substantiate a few pedagogical intentions with the multimodal interactive language learning concepts that she has designed for the research. She will also introduce connections in her teaching interventions to learning approaches (or concepts), such as the holistic conception of the human being, authenticity, experiential and situated learning, learner autonomy, agency and identity building, dialogue, collaboration, as well as intercultural encounters and communication.

In his chapter, **Subject teacher education as a prisoner of its own tradition: Experiments in mathematics and science to break out of the routine**, Harry Silfverberg introduces four reforms concerning subject teacher education programmes in the mathematical subjects carried out at the University of Tampere during the last two decades. Each of these reforms challenged the traditional ideas of the type of structure the subject teacher education programme should and could have, what course and other contents it should have, and which institutions should be responsible for the administration of each sector of the education. The chapter examines the motives leading to the onset of these development projects, the basic ideas behind the projects and the life course of each project. Some of the projects are still ongoing, some of them have ended and others will end soon. However, one must remember that although projects end, many of their innovative background ideas continue their lives in some other form in the practices of the institution. As far as the completed projects are concerned, Silfverberg also discusses the reasons leading to the end of the projects despite having had quite a general agreement on the value and innovativeness of the experiments.

According to subject didactic research, the process aspect of mathematics is important to schoolteachers. Through it, teachers can become more committed to their studies at school and achieve

more applied skills and deeper learning, for example. However, in the conventional subject studies at the university level this approach may remain vague. Jaska Poranen in his chapter, **On the process aspect in mathematics through genuine problem-solving**, sets himself a genuine problem through which he wants to achieve a clearer picture of the process aspect. He uses GeoGebra software as a central tool. Many experimental features then come along; many conjectures and hypotheses arise. The process aspect seems to be a chain or a network of conjectures and refutations; it may also include some qualitative reasoning needed for a better understanding. At the end, the author also creates some more general connections of this writing process to certain themes in subject didactics, i.e. in the contents of his teaching as a university instructor.

In the chapter, **Developing interreligious competence in teacher education**, Inkeri Rissanen, Arniika Kuusisto and Elina Kuusisto examine the concepts of teachers' intercultural and interreligious competence and discuss the challenges related to developing them in teacher education by drawing from multiple studies conducted in the Finnish context. They first portray how teacher's intercultural competence and intercultural sensitivity have been defined in the research literature and discuss the particular challenges related to dealing with religious forms of difference. The notion of interreligious sensitivity is described and, as a consequence, the need to better understand what makes a teacher not only interculturally but also interreligiously competent. They discuss the Finnish context and the current status of intercultural and interreligious competences in Finnish teacher education. Also, they elaborate research results from studies that have examined the intercultural and interreligious sensitivities of Finnish teachers and student teachers as well as the development of these sensitivities during the teacher education. At the end of the chapter, they discuss the implications of these findings from the perspective of further development of teacher education.

In their chapter, **Multiculturalism as a resource: Educating teachers with immigrant backgrounds to serve as specialists and valuable resources in increasingly multicultural Finnish schools**, Maija Yli-Jokipii and Jaakko Vuorio introduce the implementation and impact of the *Kuulumisia* project carried out in the teacher education at the University of Tampere. *Kuulumisia* is an ongoing project under which the university provides education and training towards teacher qualification for students with an immigrant background. The authors of the chapter explain the background and possibilities of such education and shed light on the challenges and opportunities faced by teachers with an immigrant background in Finland. Furthermore, selected findings of the background research conducted by Jaakko Vuorio (2015) for his master's thesis are interwoven in the chapter.

In their chapter, **Good enough art teacher: Developing visual identity in teacher education**, Jouko Pullinen and Juha Merta report on their case study among art education students. Their interest was to find out whether the students defined themselves more as future teachers or as artists, and how they believed that they could combine these two different professional identities. They collected data from a course, the purpose of which was to encourage academic discourse between the arts. During the course, students undertook visual and literary assignments, e.g. they constructed portraits in which they designed a picture, selected the location and decided how to settle into the environment and what props to use. The idea was to summarize their personal views on arts 'teacherhood' into one photo. Later on, the photos were interpreted and discussed in groups. After the discussion, the students wrote their identity stories in which they divulged their identity picture after their own interpretation and the collective interpretation process based on their photo. These stories and photos were used as data for the study; they provided the authors with versatile material upon which to explore and describe the identities of art teaching students. At the end, based on the research

results and literature, the authors discuss the issue of who is skilled enough as an art teacher.

In the chapter, **Student teachers' professional growth: A case study of pedagogical practices used during the course Teacher as a Researcher**, Outi Stüber and Anne Jyrkiäinen describe and discuss a case study they conducted in subject teacher education at the University of Tampere. Their purpose was to examine student teachers' professional growth based on Mentkowski and her co-authors' theory (Mentkowski et al. 2000). They explored, designed and evaluated the curriculum and pedagogical practices to support student teachers' professional growth through collaborative learning and knowledge building during teacher education. The case study reported in the chapter follows the principles of Educational Design Research (EDR) and presents one cycle of the EDR. The research data consisted of student teachers' project reports that were designed to espouse social learning among the student teachers and at the same time promote their professional growth. The results show that these types of pedagogical practices reinforce all four domains of professional growth presented by Mentkowski and her co-authors (2000): reasoning, performance, self-reflection and development.

The purpose of this volume has been to draw together a selection of the development work and research conducted in the subject teacher education of the University of Tampere. All authors have been teacher educators at the University of Tampere or are currently researchers and/or educators at the Tampere University.¹

¹ The University of Tampere and the Tampere University of Technology were merged in 2019. The name of the new established university is Tampere University.

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